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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/974,855	10/12/2001	Atsushi Kota	Q66657	7448

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EXAMINER	
SHENG, TOM V	

ART UNIT	PAPER NUMBER
2673	7

DATE MAILED: 12/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/974,855	Applicant(s) KOTA ET AL.	
	Examiner Tom V Sheng	Art Unit 2673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-18 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-18 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Rumbaugh et al. (US Patent 6559819 B1).

As to claim 1, Rumbaugh teaches an image display apparatus (figure 2; field emission display 100) comprising:

an image display section in which a plurality of light emitting elements are arranged in a matrix at intersections of a plurality of scan lines (gate lines) and a plurality of data lines (cathode lines; matrix-addressable field emission display is defined by the intersections of anode 124, cathodes 108, and gates 116; column 3, lines 5-21);

a control circuit (the combination of scan mode control circuit 130, scan mode switching circuit 150, and video controller circuit 160) which selects one of modes as an operation mode (single scan mode or a multi-scan mode) in response to a mode switching signal (output 151 of scan mode switching circuit 150), and outputs a data signal (inherently from video controller circuit 160) and a scan control signal (also

inherent in order to operate field emission display 100) based on an image signal to be displayed and said selected mode (column 3, lines 22-39);

a row driving section connected to said plurality of scan lines to sequentially drive said plurality of scan lines based on said scan control signal in a unit determined based on said operation mode (the use of a row driving section sequentially in a passive matrix display is well-known and common);

a column driving section connected to said plurality of data lines to sequentially drive said plurality of data lines based on said data signal (the use of a column driving section sequentially in a passive matrix display is well-known and common);

whereby an image corresponding to said image signal is displayed on said image display section (inherent). As an example, please refer to Kubota et al. (US Patent 6373460 B1) that teaches a conventional dot sequential driving method applicable to LCD, EL, and LED display devices (figure 11; column 1, lines 17-64).

Claim 2 corresponds to the single scan method and is read by Rumbaugh's single scan mode.

Claim 3 corresponds to the double scan method and is read by Rumbaugh's multi-scan mode in the case of a double scan mode (column 3, lines 30-34).

Claim 4 corresponds to the double sequential scan method. However, the recitation "N by N" is still read by Rumbaugh's multi-can mode due to lack of differentiating details.

Claim 5 corresponds to the single sequential scan method. However, the recitation "N by N" is still read by Rumbaugh's multi-can mode due to lack of differentiating details.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claim 6 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rumbaugh.

As to claim 6, monochromatic display can be provided simply by turning off the other two color pixels or by making all 3-color pixels same intensity and is obvious to one of ordinary skill in the art. Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to drive Rumbaugh's invention for color or monochromatic display as the image signal dictates.

As to claims 15-17, Rumbaugh teaches selecting single scan or multi-scan display based on measurement of a temperature sensor. Rumbaugh does not teach switching display driving mode based on measurement of an external brightness sensor, a remaining charge of battery (powering the display), or user designation set for when receiving a call. However, these are obvious features one of ordinary skills in the art would consider implementing due to the respective natures. For example, in

darkness, the display would only need a low brightness for viewing, and in bright outdoors the display would need a higher brightness in order to overcome the ambience. When battery power is low, one would desire a lower brightness for power saving sake over sufficient display. Lastly, it is certainly desirable for a user to set a nominal brightness of display to his/her liking upon receiving a phone call.

5. Claims 7-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rumbaugh as applied to claim 1 above, and further in view of Kuwata et al. (EP Application Publication 0617399 A1).

As to claims 7-14, Rumbaugh is silent as to the specific driving schemes in the double scan or double sequential scan driving methods as claimed. On the other hand, Kuwata teaches a multiple line selection method where a plurality of scanning lines is selected at a time (column 3, lines 2-25). This would solve the frame response issue (column 1, lines 19-47). Note also that the rows driven together needs not be continuously arranged. Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to incorporate Kuwata's MLS methodology in Rumbaugh's invention, thus solving frame response issue and providing further flexibility in driving.

6. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rumbaugh as applied to claim 1 above, and further in view of Kubota et al. (US Patent 6373460 B1).

As to claim 18, Rumbaugh's display driving device is a field emission display. Rumbaugh does not teach an electroluminescence display apparatus. On the other hand, both field emission display and electroluminescence display are light emitting display. Further, Rumbaugh's driving method is a dot sequential driving method, and Kubota teaches that the conventional dot sequential driving method is applicable to LCD, EL, and LED display devices (figure 11; column 1, lines 17-64). Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Rumbaugh's invention for electroluminescence display due to the similar nature of both display types and the extra display option.

Response to Arguments

7. Applicant's arguments filed 10/2/03 have been fully considered but they are not persuasive.

Regarding claim 1, the Applicant argues that Rumbaugh outputs only a scan control signal based on a selected mode and does not teach or suggest outputting also a data signal based on a selected mode.

The examiner disagrees. It is inherently necessary that when a scan mode changes, the timing of the data signal driving the cathodes would change accordingly in a matrix-addressed display.

Further, claim 1 fails to indicate whether and how the data signal and the scan control signal would be different between operation modes. It only cites "outputs a data

signal and a scan control signal based on an image signal to be displayed and said selected mode."

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Fujiyoshi (US 6211854 B1) teaches utilizing a moving-image/still-image determination signal to control the gate driver and the source driver to operate between two different scan modes.

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom V Sheng whose telephone number is (703) 305-6708. The examiner can normally be reached on 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (703) 305-4938. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Tom Sheng
November 20, 2003

KENT CHANG
PRIMARY EXAMINER